

KOTZIN ET AL.
"Emergency Deployable GPS Antenna"
Atty. Docket No. CS 10455

Appl. No. 10/628,200
Confirm. No. 6111
Examiner S. Chen; Art Unit 2821

1. (Previously Presented) A portable wireless communication device, comprising:

a radio receiver coupled to an antenna;

a satellite positioning system receiver;

a satellite positioning system antenna coupled to the satellite positioning system receiver;

a deployment system coupled to the satellite positioning system antenna, the deployment system moving the satellite positioning system antenna from a docked position to a deployed position in response to an occurrence of at least one predetermined deployment event.

Claim 2 (Canceled).

3. (Previously Presented) The device according to claim 1, wherein the satellite positioning system antenna is a monopole antenna substantially contained in an antenna chamber, wherein the deployment system has an ejection device, and wherein the satellite positioning system antenna has a connection section operatively connected to the ejection device which moves the satellite positioning system antenna from the docked position to the deployed position.

4. (Previously Presented) The device according to claim 3 wherein the ejection device is a spring member, and wherein a latch mechanism retains the monopole satellite positioning system antenna in the antenna chamber.

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5. (Previously Presented) The device according to claim 3 wherein the ejection device is a fusable link which connects the connection section of the satellite positioning system antenna to a retaining surface of the antenna chamber.

6. (Previously Presented) The device according to claim 3, wherein the ejection device is a compressed gas device that is located between the connection section of the satellite positioning system antenna and a retaining surface of the antenna chamber when the satellite positioning system antenna is in the docked position.

7. (Previously Presented) The device according to claim 3 wherein the ejection mechanism is a motor operatively connected to the satellite positioning system antenna, and wherein the satellite positioning system antenna and the antenna chamber have a gear structure such that when the motor is energized, the satellite positioning system antenna moves from the docked position to the deployed position.

8. (Previously Presented) The device according to claim 3, wherein the ejection mechanism is a solenoid having a coil and a plunger, wherein the solenoid is contained within a bottom area of the antenna chamber, wherein the plunger has one end connected to the connection section of the satellite positioning system antenna, and wherein upon energizing the coil of the

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solenoid, the plunger moves the antenna from the docked position to the deployed position.

9. (Previously Presented) The device according to claim 3, wherein the ejection mechanism is an airbag-type device, wherein the satellite positioning system antenna is an inflatable monopole satellite positioning system antenna that is operatively connected to the airbag-type device, and wherein upon receiving a signal the airbag-type device inflates the satellite positioning system antenna thereby moving the satellite positioning system antenna from the docked position to the deployed position.

10. (Previously Presented) The device according to claim 1, wherein the satellite positioning system antenna is an inflatable antenna, wherein the satellite positioning system antenna has a compressed configuration for the docked position and inflated by the control system to a monopole satellite positioning system antenna configuration for the deployed position.

11. (Previously Presented) The device according to claim 10, wherein the satellite positioning system monopole antenna is deployed by an airbag-type device.

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12. (Previously Presented) The device according to claim 10, wherein the monopole satellite positioning system antenna is deployed by a compressed gas device.

13. (Previously Presented) The device according to claim 1, wherein the device further comprises a quadrifilar helix cellular/satellite positioning system antenna on which an inflatable monopole satellite positioning system antenna is operatively connected.

14. (Previously Presented) The device according to claim 13 wherein the inflatable satellite positioning system monopole antenna is inflated to move the satellite positioning system monopole antenna from the docked position to the deployed position by one of an airbag-type device and a compressed gas type device.

15. (Previously Presented) The device according to claim 1, wherein the antenna is a microstrip patch antenna, the satellite positioning system antenna is a monopole antenna, wherein the microstrip patch antenna has an aperture through which the monopole satellite positioning system antenna is deployed from the docked position to the deployed position substantially external to a housing of the portable wireless communication device.

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16. (Previously Presented) The device according to claim 1, wherein the satellite positioning system antenna is a monopole satellite positioning system antenna having a first end attached to a housing of the portable wireless communication device and a second end attached to a microstrip patch antenna, wherein the microstrip antenna is at least a cellular patch antenna, wherein in the docked position the second end of the satellite positioning system antenna is substantially adjacent the housing and wherein in the deployed position the second end of the satellite positioning system antenna is orientated away from the housing.

17. (Previously Presented) The device according to claim 1, wherein the satellite positioning system antenna is rotated from a docked position adjacent a housing of the portable wireless communication device to a deployed position in which the satellite positioning system antenna has one end positioned away from the housing.

Claims 18-23 (Canceled).

24. (Currently Amended) A portable wireless communication device, comprising:

a housing;

a satellite positioning system receiver communicably coupleable to a first antenna, the satellite positioning system receiver disposed within the housing;

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a second antenna communicably coupleable to the satellite positioning system receiver,

the second antenna movable between a docked [~~docket~~] position and a deployed position, the second antenna is disposed substantially within the housing in the docked [~~docket~~] position, the second antenna protruding substantially from the housing in the deployed position.

25. (Previously Presented) The portable wireless communication device of Claim 24, the first antenna communicably coupled the satellite positioning system receiver when the second antenna is in the docked position, the second antenna communicably coupled the satellite positioning system receiver when the second antenna is in the deployed position.

26. (Previously Presented) The portable wireless communication device of Claim 24, a deployment system connected to the second antenna, the deployment system moving the second antenna from the docked position to the deployed position in response to an occurrence of a deployment event.

27. (Currently Amended) A portable wireless communication device, comprising:

at least one of a wireless receiver and wireless transmitter;
an antenna coupled to the at least one of the wireless receiver and wireless transmitter;

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an antenna deployment system having a ~~[motor]~~ solenoid operatively coupled to antenna, the antenna movable between a docked position and a deployed position,

the antenna movable to one of the docked position or the deployed position when the ~~[motor]~~ solenoid is energized.

28. (Currently Amended) The device of Claim 27,

the antenna substantially contained within an antenna chamber [~~the antenna and the antenna chamber have a gear structure~~] such that the antenna moves from the docked position to the deployed position when the ~~[motor]~~ solenoid is energized.

29. (Previously Presented) The device of Claim 28,

the antenna chamber is disposed within a housing of the portable wireless communication device.

30. (Currently Amended) The device of Claim 28,

the ~~[motor is a]~~ solenoid having a coil and a plunger, the solenoid contained within the antenna chamber, the plunger having an end coupled to the antenna, wherein the plunger moves the antenna from the docked position to the deployed position upon energizing of the coil.

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31. (Previously Presented) A portable wireless communication device, comprising:

a patch antenna having an aperture;

a monopole antenna;

the monopole antenna movable between a docked position and a deployed position,

the monopole antenna is located so that the monopole antenna extends through the aperture of the patch antenna during movement to one of the docked and deployed positions.

32. (Previously Presented) The device of Claim 31,

a radio device coupled to the patch antenna;

a satellite positioning system receiver coupled to the monopole antenna,

wherein the monopole antenna is located so that the monopole antenna extends through the aperture of the patch antenna during movement to the deployed position.